



CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005



Job No.: CTCE/BBMP/W.No.17/KS/WMM/Gradation/2014-15



16.04.2014

GRADATION FOR WMM MORTH TABLE-400-11

Client : Asst. Executive Engineer, Yeshwanthapura Sub Division, BBMP, Bangalore.

Agency : Mr. K. Shivakumar, Contractor, Bangalore.

Name of Work : Providing and laying HDPE Water line in Muthyalanagara Block - 3 in J P Park, Ward No.17, BBMP, Bangalore.

Reference : EE/RRND/Wo.No/236/2013-14 Dated: 07.02.2014

Date of Testing : 16.04.2014

Material : WMM

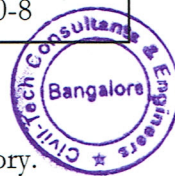
Sample Location : WMM Mix Plant

Oven Dry Wt (gm): 8720

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	190	190	2.2	97.8	95-100
22.4	2505	2695	30.9	69.1	60-80
11.2	1410	4105	47.1	52.9	40-60
4.75	1250	5355	61.4	38.6	25-40
2.36	1115	6470	74.2	25.8	15-30
0.600	1005	7475	85.7	14.3	8-22
0.075	920	8395	96.3	3.7	0-8

Note:

1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
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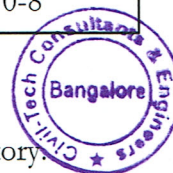
Sample Location : WMM Mix Plant

Oven Dry Wt (gm): 8450

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	285	285	3.4	96.6	95-100
22.4	2975	3260	38.6	61.4	60-80
11.2	1210	4470	52.9	47.1	40-60
4.75	1050	5520	65.3	34.7	25-40
2.36	980	6500	76.9	23.1	15-30
0.600	900	7400	87.6	12.4	8-22
0.075	850	8250	97.6	2.4	0-8

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16.04.2014

Aggregate Impact Value

IS: 2386 Part IV

Client	Asst. Executive Engineer, Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	Mr. K. Shivakumar, Contractor, Bangalore.
Name of the Work	Providing and laying HDPE Water line in Muthyalanagara Block - 3 in J P Park, Ward No.17, BBMP, Bangalore.
Reference	EE/RRND/Wo.No/236/2013-14 Dated: 07.02.2014
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	16.04.2014



Sl No.	Details	Trial No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	386	388	
2	Weight of aggregate passing 2.36 mm sieve after the test = W_2 g	82	84	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	304	304	
4	Aggregate Impact value = percent fines	21.24	21.65	
	$100 * (W_2/W_1)\%$			21.45

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
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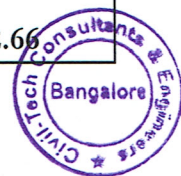
Sl No.	Details	Trial No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	389	392	22.66
2	Weight of aggregate passing 2.36 mm sieve after the test = W_2 g	88	89	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	301	303	
4	Aggregate Impact value = percent fines	22.62	22.70	
	$100 * (W_2/W_1)\%$			

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	16.04.2014



Sl No.	Details	Trial No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	379	382	20.23
2	Weight of aggregate passing 2.36 mm sieve after the test = W_2 g	75	79	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	304	303	
4	Aggregate Impact value = percent fines	19.79	20.68	
	$100 * (W_2/W_1)\%$			

Comments:

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